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10/518,495	12/20/2004	Joachim Grupp	ICB0198	5568

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GRIFFIN & SZIPL, PC  
SUITE PH-1  
2300 NINTH STREET, SOUTH  
ARLINGTON, VA 22204

EXAMINER
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CHIEN, LUCY P

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2871

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,495	<b>Applicant(s)</b> GRUPP ET AL.	
	<b>Examiner</b> LUCY P. CHIEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-38 is/are pending in the application.
- 4a) Of the above claim(s) 30 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-29, 31 and 33-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claim 14-40 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 14-20,31,33,35,37,39** are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakami et al (US 20020008805)

#### Regarding Claim 14,31,33,35,37,

Kawakami et al discloses (Fig. 2) at least one transparent front substrate (17b) whose top surface forms the front face of the cell; at least one back substrate (17a) that may also be transparent or not, whose lower surface forms the back face of said cell; a sealing frame (6) joining the front and back substrates and defining a volume for retaining an electro-optically or photo-electrically active medium in a sealed manner (liquid crystal, (L)); said front and back substrates include on faces opposite each other at least one electrode each (51,66,51), these electrodes being connectable by conductive paths (51) of the cell to an electrical power or control circuit (8a) and the electrodes are flush (adjacent to, the electrodes (51,13a) are shown to be at the edge of

Art Unit: 2871

the substrates (17a) with an edge of the front substrate and with an edge of the back substrate respectively, and define lateral electric contact zones, wherein the conductive paths (13a) are each formed of a first separate component part (13a) in contact with the electrodes at the level of the lateral electric contact zones, and a second separate component part (3a) extending over the back surface of the cell, contact member (34, or and those 3 black bumps) arranged at an exterior surface of the cell over the edge (34 is a little over the edge) of said cell forming the electrical junction between the first (13a) and second parts (19) of the conductive paths. The back substrate (17a) is disposed between the contact member (34) and the front substrate (17b). The first separate component part and the second separate component part are disposed so that each contacts the contact member.

Regarding Claim 15.

Kawakami et al discloses (Fig. 2) wherein the contact member (34 and the black bumps) take the form of discrete bumps.

Regarding Claim 16.

Kawakami et al discloses (Fig. 2) wherein the first separate component part (13a) of the conductive paths come into lateral contact with the conductive bumps (34), whereas the second separate component part (3a) of the conductive paths can extend as far as the top of said bumps and cover said bumps and the bottom substrate (17a) in whole or in part.

Regarding Claim 17.

Kawakami et al discloses (Fig. 2) wherein the second separate component parts (3a) of the conductive paths extend at least partially underneath the conductive bumps *(applicant has not claimed that the contact member is located at the side of the substrate and the second separate component part of the conductive path directly contacts the contact member and extend at least partially underneath the conductive bumps as shown in applicant's Figure 7)..*

Regarding Claim 18.

Kawakami et al discloses (Fig. 2) the contact member (34) is made of tape of anisotropic conductive material (ACF) [0086]

Regarding Claim 19.

Kawakami et al discloses (Fig. 2) wherein the cell includes a stack of (n) (1) individual cells, each of the individual cells being defined by two substrates belonging thereto.

Regarding Claim 20.

Kawakami et al discloses (Fig. 2) wherein the cell includes (n+1) (1+1=2) two superposed substrates (upper and bottom substrate counts as two superposed substrates, these (n+1) substrates being joined in pairs by a sealing frame.

Regarding claim 39.

Kawakami et al discloses (Fig. 2) the contact member (34) has a first thickness and the first separate component part has a second thickness and the second separate

component part has a third thickness wherein the first thickness is thicker than the second thickness and the first thickness is thicker than the third thickness.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 21,23,25,34,36,38,40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (US 20020008805) in view of Mandai et al (US 20010015788).

*Regarding Claim 21,34,36,38*

Kawakami et al discloses everything as disclosed above.

Kawakami et al does not disclose four superposed substrates joined in pairs by sealing frames which each define a sealed cavity for retaining liquid crystals.

Mandai et al discloses (Fig. 1 and 4C) four superposed substrates (8,10) joined in pairs by sealing (16) frames which each define a sealed cavity for retaining liquid crystals (18); and a first sealing frame joining the substrates (16), while a second sealing frame joins the substrates and a third sealing frame joins the substrates, said substrates (8,10) including on their faces opposite each other at least one electrode

(12,14) each, said electrodes being connectable by conductive paths (480 to an electric control circuit and the electrodes are flush (the electrodes (12,14) shown in Fig. 1 are at the edge of the substrate, therefore they are flushed with an edge of the front and back substrate).

It would have been obvious to one of ordinary skill in the art to modify Kawakami et al's display to have four superposed substrates joined in pairs by sealing frames which each define a sealed cavity for retaining liquid crystals taught by Mandai et al motivated by the desire to provide an improved display system used for cards that can be used repeatedly without requiring any power supply [0009].

Regarding Claim 23,25.

In addition to Kawakami et al and Mandai as disclosed above, Mandai et al discloses (Fig. 8) wherein a power circuit or the control circuit (in housing 74) is mounted directly on the back of the liquid crystal panel cell (30).

Regarding claim 40.

In addition to Kawakami et al and Mandai as disclosed above, Kawakami et al discloses (Fig. 2) the contact member (34) has a first thickness and the first separate component part has a second thickness and the second separate component part has a third thickness wherein the first thickness is thicker than the second thickness and the first thickness is thicker than the third thickness.

**Claim 22,24,26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (US 20020008805) in view of Kuroki et al (US 20020051102).

Regarding Claim 22,24,26,

Kawakami et al discloses everything as disclosed above.

Kawakami et al does not disclose wherein the circuit is mounted on the back of the cell.

Kuroki et al discloses wherein the circuit is directly mounted on the back of the cell via a flexible conductive film (5) which is well known in the art to provide a thinner display.

It would have been obvious to one of ordinary skill in the art to modify Kawakami et al to include Kuroki's circuit mounted on the back of the cell motivated by the desire to provide a thinner display.

**Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (US 20020008805) and of Mandai et al (US 20010015788) in view of Kuroki et al (US 20020051102).

Regarding Claim 27,

Kawakami et al and Mandai et al discloses everything as disclosed above.

Kawakami et al and Mandai et al do not disclose wherein the circuit is mounted on the back of the cell.



Kuroki et al discloses wherein the circuit is directly mounted on the back of the cell via a flexible conductive film (5) which is well known in the art to provide a thinner display.

It would have been obvious to one of ordinary skill in the art to modify Kawakami et al and Mandai et al to include Kuroki et al's circuit mounted on the back of the cell motivated by the desire to provide a thinner display.

**Claim 28** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (US 20020008805) in view of Wada (US 20020019069).

Regarding Claim 28.

Kawakami et al discloses everything as disclosed above.

Kawakami et al does not disclose wherein a transparent or colored absorbent layer for relaxing thermo-mechanical stresses and able to resist a chemical etch bath is deposited on the back of the cell.

Wada discloses a stress relieving absorbent layer (Fig. 9, (20)) to relieve stress due to thermal expansion between the circuit board and the chip.

It would have been obvious to one of ordinary skill in the art to modify Kawakami et al display to include an absorbent layer taught by Wada motivated by the desire to relieve stress due to thermal expansion between the circuit board and the chip (Page 8, [0138]).

**Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (US 20020008805) and of Mandai et al (US 20010015788) in view of Wada (US 20020019069).

Regarding Claim 29.

Kawakami et al and Mandai et al discloses everything as disclosed above.

Kawakami et al and Mandai et al does not disclose wherein a transparent or coloured absorbent layer for relaxing thermo-mechanical stresses and able to resist a chemical etch bath is deposited on the back of the cell.

Wada discloses a stress relieving absorbent layer (Fig. 9, (20)) to relieve stress due to thermal expansion between the circuit board and the chip.

It would have been obvious to one of ordinary skill in the art to modify Kawakami et al and Mandai et al's display to include an absorbent layer taught by Wada motivated by the desire to relieve stress due to thermal expansion between the circuit board and the chip (Page 8, [0138]).

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien

Application/Control Number: 10/518,495  
Art Unit: 2871

Page 11

Examiner  
Art Unit 2871

/David Nelms/

Supervisory Patent Examiner, Art Unit 2871